

locating the substrate in said silicon film forming vacuum chamber, and forming the pre-film of the crystalline silicon film on the target surface of said substrate by said film forming device; and

producing the intended crystalline silicon film from said pre-film by irradiating said pre-film in said vacuum chamber with said energy beam for crystallization of said pre-film emitted from said energy beam irradiating device subsequently to the formation of said pre-film.

17. (Amended) The crystalline silicon film forming method according to claim 16, wherein

said film forming device employs such a structure that can form said pre-film over a length, in a first direction, of the target surface of said substrate, said energy beam irradiation device employs such a structure that can irradiate the target surface of said substrate over the length in the first direction with the energy beam, and the intended crystalline silicon film can be successively formed by operating said film forming device to form said pre-film on the target surface of said substrate, and concurrently operating said energy beam irradiation device to irradiate the formed pre-film with the energy beam while moving said substrate in a second direction crossing said first direction.

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30. (Amended) The crystalline silicon film forming method according to claim 25, wherein

an emission energy of said ion beam is in a range from 500keV to 500eV.